

Office of the Governor's Water Advisor

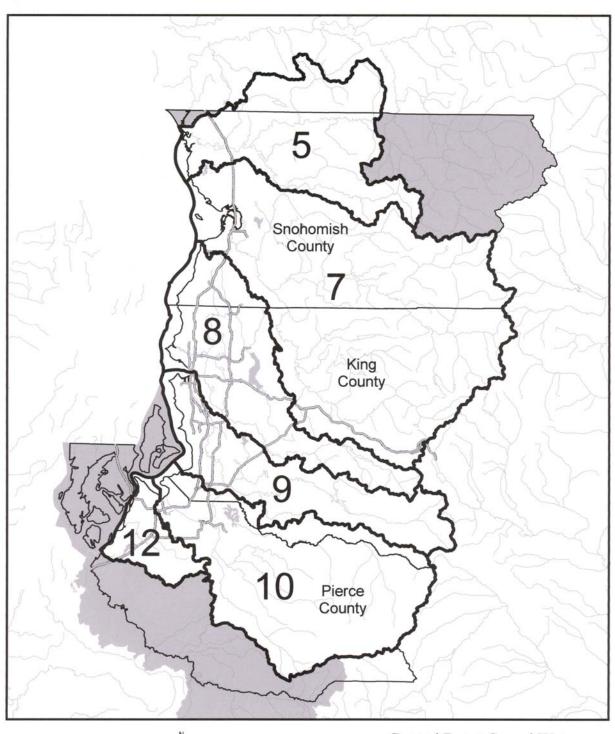


# Central Puget Sound Regional Water Initiative

## Regional Water Resource Management Program

Water resources are managed in a sustainable manner that supports vibrant communities and a healthy environment

Report from Jim Waldo



10 0 10 20 Miles

Central Puget Sound Water Resource Management Program April 2003

#### **List of Participants**

The Central Puget Sound Initiative was guided by the Office of the Governor's Water Policy Advisor working with a team of State agency representatives to develop the Regional Water Resource Program. The team included:

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The team convened an Interim Work Group to help shape the initial Straw Proposal; three Task Groups held a series of meetings on specific topics. In addition, the team led two workshops that provided input for the draft Strategy in October 2002. Participants in these activities provided important perspectives and information, but their participation does not necessarily represent an endorsement of the Program. Participants in Task Groups and workshops included:

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A Legal Review Task Force was convened to review the previous draft of this Program and to evaluate whether certain elements of the Program could be implemented under existing legal authority. The members of the Task Force, identified below, participated in their personal capacity and not on behalf of any client or entity.

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#### **INTRODUCTION**

The Central Puget Sound region (Snohomish, King and Pierce Counties) has unique challenges to water resource management. One such challenge is that decisions affecting water resource management are made in a fragmented and uncoordinated fashion. For instance, the State has jurisdiction to manage water resources while local government (cities and counties) manages land use. Consequently, decisions that affect water resources involve both State and local government but are not coordinated. Other challenges facing regional water resource management include population growth, economic development, fish recovery and potentially climate change. These challenges, and others, create the impetus and opportunity to develop a regional approach to water management that reflects a true partnership between affected parties.

In December of 2001, Governor Locke initiated the Central Puget Sound Initiative (CPSI) to capitalize on the opportunity to develop a regional water management strategy. Through the CPSI, the region is progressing toward the goal of achieving a regional water resource management program that manages water resources in a sustainable manner that supports vibrant communities and a healthy environment. The process for achieving this goal is described below as the Central Puget Sound Regional Water Resource Management Program (Program). This Program will provide the coordination of existing authorities, the development of regional policies, and the integration of decision-making necessary to effectively manage regional water resources.

The State, Indian tribes, local governments, and stakeholders, including water managers, environmental and business groups and other interested parties, all have a key role in the management of the region's water resources. Governments and stakeholders have a variety of responsibilities and interests. State government is responsible for administering a variety of water resource management and water-related authorities that affect regional or local decisions. Local governments have multiple responsibilities for permitting and planning, and regulations related to water resources and land use management. Water utilities are responsible for managing water efficiently in order to meet their obligations as water suppliers. Environmental and business groups and other interested parties represent important perspectives that must be included in a successful water resource management program. Indian tribes have unique rights under federal law and treaties.

In addition, coordination among State agencies whose responsibilities include water resources is an important component of this Program. There is a need for a regionally based coordinated effort by State agencies to improve comprehensive water management for the region. To this end, it is recommended that Governor Locke designate a Central Puget Sound Water Team (CPS Team), described later in this document and in Appendix A, to perform this function, and to act as convener for the development of the Program. In response to tribal concerns regarding water resource management, the State will engage regional Indian tribes in government-to-government discussions regarding tribal water needs, and the development of the Regional Water Resource Management Program.

Many instream and out-of-stream projects are in some stage of development; this work will continue during the development of the Program. One component of the CPSI has been the

evaluation of early action and pilot project proposals that can be initiated within the next two years to meet water resource management objectives in the Central Puget Sound region while the long term Program is being developed. Appendix B lists the criteria that were developed by State agency representatives and stakeholders as part of the CPSI Task Group meetings during the summer of 2002. Recommendations for State support for early action and pilot projects are also described in Appendix B.

The Program includes three key features:

- (1) An "instream component" developed on a watershed by watershed basis. This component will address water issues related to water necessary for fish and related habitat. It is clear that lack of knowledge is a significant impediment to successful water resource management.
- (2) An "out-of-stream component" developed for the entire region including a watershed by watershed analysis. It will include a water budget and identify current and future water needs for out-of-stream purposes.
- (3) A collaborative process that results in the integration of instream and out-ofstream needs into a management program that is the basis for water, land use and planning decisions.

## A. Phases of the Program

The Program will be developed through a series of phases that will evolve as its various elements are themselves developed and implemented. Figure 1 depicts a schematic of the three phases of the Program.

1. Phase I consists of organizing and defining the scope of the Program and development of the vision and action plan.

The efforts that culminated in this report constitute Phase I of the Program and Phase I is complete with finalization of this report.

# 2. Phase II includes data collection and evaluation, and identification of related policy options.

One of the most important features of the Program is an effort to energize the collection and understanding of information needed to protect the water resource needs of fish. Phase II includes the assembly of scientific and technical information that clearly identifies the total regional water resources and regional water needs of fish. This body of knowledge will include and build upon existing regional and State processes focused specifically on fish needs.

Concurrently, an update of the Central Puget Sound Water Suppliers' Forum "Regional Water Supply Outlook" will be done to expand upon the analysis of and estimates for the water needs of people and other out-of-stream needs.

In addition to the data collection and analysis described above, Phase II will identify areas of agreement and conflict between instream and out-of-stream needs, provide an initial understanding of the relationship between various water needs, and identify linkages between the Program and other water resource-related processes. Information will be presented with options for decision-making that will occur in Phase III. The Phase II Committee will be responsible for developing recommendations to a Phase III Committee by June 2005.

# 3. Phase III will incorporate the elements of Phases I and II in a comprehensive Water Resource Management Program for the Central Puget Sound region.

It is recommended that the Governor convene, through consultation with local governments and other interested parties, a Phase III Committee that will coordinate the work required in Phase III. It is recommended that the Governor pursue tribal participation on a government-to-government basis. It is anticipated that the Program developed through Phase III will address a number of complex water resource issues, coordinate work occurring under existing authorities and processes, and lead to more effective and efficient management of the region's water resources. Phase III will be fully defined and operational by June 2006.

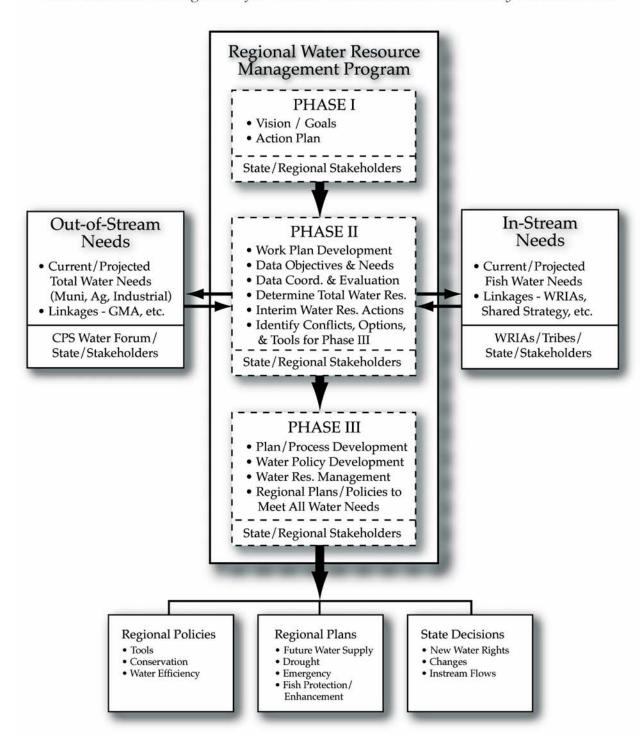
To the greatest extent possible, the timelines for development of the Program should coincide with the timelines already established for existing processes and efforts that will be supported by and linked with the Program. For example, work done during the development of salmon conservation plans within each Water Resource Inventory Area (WRIA) should serve as the starting point for instream needs data collection and assessment during Phase II.

The Program that is envisioned is based on existing authority, thus successful implementation of the Program will rely on enhanced collaboration and coordination between relevant parties responsible for developing and implementing the Program. If it becomes necessary to establish new legislative authority, it is hoped that the support necessary to make those changes, and the legislation itself, will be developed through this collaborative effort.

Considerable time and money was spent by numerous regional entities and stakeholders in the development of this Program. A successful Program will require a substantial investment of additional time and money.

# Fig. 1 CENTRAL PUGET SOUND WATER RESOURCE MANAGEMENT PROGRAM

Water Resource Management for Vibrant Communities and Healthy Environments



## PHASE I: VISION, GOALS, AND ACTION PLAN

Phase I established the Vision and Goals, and an Action Plan in order to garner the necessary support to energize and fund Phases II and III. The completion of this document signifies the completion of Phase I.

#### A. Vision and Goals

The Vision of this Program is that water resources are managed in a sustainable manner that supports vibrant communities and a healthy environment.

The Goals of the Program are:

- The Program will be collaboratively developed by State, tribal, and local governments and stakeholders.
- The Program will be flexible and include adaptive management components.
- The Program will identify, quantify, and address instream water resource needs.
- The Program will improve instream flows to a level necessary to achieve healthy, harvestable fish runs in Central Puget Sound.
- The Program will ensure efficient out-of-stream water use.
- The Program will include consideration of the use of alternative water supplies.
- The Program will identify the water required to support vibrant communities.
- The Program will build on existing planning efforts.
- The Program will provide the basis for the full array of water-related decisions across all levels of government.

#### B. Action Plan

Phase I began in December 2001 with initial meetings between State agency representatives and stakeholders to develop a Central Puget Sound regional water initiative.

Phase II begins with the Governor's endorsement of this document and appointment of the Central Puget Sound Water Team. This CPS Team, in consultation with the Governor's Water Team, will coordinate the creation and convening of a Phase II Committee. The Phase II Committee will consist of representatives from State and local governments, stakeholders and interested parties. It will be responsible for developing Phase II of the Program. In fulfilling its responsibility the Committee will assemble instream and out-of-stream technical teams. The role, responsibilities, work plan and schedule of this committee are described in Phase II below.

Some elements of Phase II will require several years to become fully developed and integrated into the Program; other elements can be integrated into the management Program immediately.

Phase III will be initiated before the completion of Phase II. It is recommended that the Governor convene a Phase III Committee from local governments and interested parties. The Phase III Committee will be responsible for integrating the Phase II work products into a regional water resource management Program consistent with the Vision and Goals established in Phase I. The role, responsibilities, work plan and schedule of this committee are described in Phase III below.

The regional water resource management Program will be continuously revised, refined and updated to respond to changing policy and water resource needs. The CPS Team, participating tribal and local governments, and stakeholders will be responsible for revising, refining and updating the Program.

# PHASE II: DATA COLLECTION AND EVALUATION, LINKAGES WITH EXISTING PROCESSES, IDENTIFICATION OF ALTERNATIVES AND RECOMMENDATIONS FOR PHASE III

Phase II consists of collecting and evaluating information and identifying related policy options for Phase III. The information assemblage in its simplest terms consists of: 1) how much water we need for instream needs; 2) how much water we need for our communities and other out-of-stream needs; and, 3) how much total water is available in our watersheds. Additional supporting tasks include development of work plans, as well as development of linkages and schedules with other on-going programs and processes. The collection of this data will require time and money.

Key process features of Phase II include:

- An iterative, interactive, and open public process between State, local and tribal governments and stakeholders; and
- An understanding and respect for existing efforts working toward this objective.

#### A. Work Plan

A Work Plan and schedule for Phase II activities will be created by the Phase II Committee, which will include the CPS Team and representatives from tribal and local governments, and stakeholders. The Work Plan will address:

- Information that is needed and the quality of that information;
- Actions that should be taken;
- Staffing needs and responsibilities;

- Timelines for each action;
- The cost of implementation;
- Sources of funding for implementation.

#### B. Collection and evaluation of data to assess instream water needs

The objective of this element is to identify instream water needs, on a watershed basis, to support healthy, harvestable fish populations and other instream uses in the Central Puget Sound region. This process will utilize and build upon existing information and efforts in Snohomish, King, and Pierce Counties, and will be done on a WRIA-by-WRIA basis. In collaboration with regional fish experts and WRIA technical committees, participants will summarize available information, identify data needs, and develop study plans to fill data gaps.

The Phase II Committee will assemble an Instream Flow Technical Team, composed of instream resource experts from State government, Indian tribes and federal agencies where appropriate, as well as participants from local government, water utilities, stakeholders and interested parties, to collect information about instream water needs. The Washington Department of Fish and Wildlife representative to the Phase II Committee will lead this effort.

The responsibilities of the Instream Flow Technical Team are to:

- Determine existing stream flow and hydrography;
- Determine the current status of fish recovery planning and the time schedule for work still underway; to the greatest extent possible, the schedule for developing the Program should accommodate the schedules of existing WRIA processes;
- Determine the fish species that occur in each WRIA and which stream segments and tributaries are deemed critical habitat for all life stages of existing fish species;
- Determine what information is currently available regarding the water needs of fish species at various locations and times;
- Determine what data gaps exist regarding fish needs and are necessary for the success of this effort;
- Identify critical tributaries and related land use and flow issues;
- Assess options for managing instream flow needs on a seasonal basis;

<sup>&</sup>lt;sup>1</sup> Examples of existing efforts include, but are not limited to: The Shared Strategy for Puget Sound, salmon recovery and watershed planning, individual Habitat Conservation Plans, conditions to hydropower licenses issued by the Federal Energy Regulatory Commission, King County's Normative Flows analysis, and Limiting Factors Analyses.

- Identify natural obstacles to fish passage;
- Develop a study scope, timeline and budget to gather necessary but unavailable data; and
- Gather information relevant to anticipated changes in stream flow due to climatic and/or drought changes.

#### C. Collection and evaluation of data to assess out-of-stream water needs

The objective of this element is to assess the total current and projected out-of-stream water needs in the Central Puget Sound region over the next 20 to 50 years. This will include human needs being met by water systems and individual systems, as well as self-supplied industrial and agricultural needs. The determination of out-of-stream needs will delineate water demand on a local, regional, and basin-wide basis.

This element will include a coordinating mechanism with the Puget Sound Regional Council, WRIA planning efforts and, to the extent possible, regional tribes on the out-of-stream water needs refinement process. Additionally, it will include a process to verify and ensure consistency with regard to individual utility demand projections and supply strategies.

The Phase II Committee will assemble an Out-of-Stream Technical Team, composed of those with responsibility for meeting out-of-stream needs, such as representatives of State and local government, water utilities, agriculture and industry, as well as participants from fisheries interests, stakeholders, and interested parties. The Washington Department of Health representative to the Phase II Committee will lead this Team. The Team will rely on the Central Puget Sound Water Suppliers' Forum's "Outlook" as the basis for its work and will complete:

- An update of the Outlook;
- An update and verification of DOH statistics regarding failing water systems;
- An evaluation of drinking water quality problems;
- An identification of small system issues, including assessment of water supply/delivery issues, such as interties, wholesale cost prices, and obligations to serve within existing service areas;
- An assessment of the opportunity to meet out-of-stream needs through conservation;
- An inventory of exempt wells and associated water use and an assessment of exempt well development patterns;
- An assessment of the potential of using alternative sources (e.g., reclaimed water) to meet out-of-stream needs;

- An incorporation of source protection data and land use implications of achieving water quantity and quality protection on a tributary by tributary basis;
- An assessment of the potential changes in viability of current sources of supply resulting from climatic change or drought.

### D. Assessment of total water resources in the Central Puget Sound region

The Phase II Committee will assess the total water resources (ground and surface water) in each of the six basins in the Central Puget Sound region. In conjunction with information gathered in B and C, this information is necessary to determine whether there are existing or potential water shortages in the Central Puget Sound region.

# E. Identification of existing processes and development of linkages between those processes and the Program

The Phase II Committee will identify all existing processes and efforts in the Central Puget Sound region that bear upon the management of water resources in this region, including but not limited to:

- Salmon Recovery and The Shared Strategy for Puget Sound
- Watershed Planning
- GMA Population Forecast/Allocation
- Other local processes as agreed to and as relevant and necessary

Identification will include, for each process or effort, a description of the timelines, goals, outcomes, and relevance to the Program. The Phase II Committee will use this information to establish a process that coordinates Program development with existing efforts and processes, as appropriate. This coordination will include information sharing, as well as utilizing efforts of linked processes to achieve common goals.

# F. Identification of water resource shortages and development of recommendations for alternative approaches to resolve shortages

The Phase II Committee will use the information generated in elements B, C, and D to make a preliminary assessment of existing or potential future water shortages in the Central Puget Sound region. Based on the work done in A through E, the Phase II Committee will develop recommendations to be used in Phase III to resolve identified water shortages.

# PHASE III: PROGRAM DEVELOPMENT AND IMPLEMENTATION

Phase III includes the development of a comprehensive Central Puget Sound Regional Water Resource Management Program. The Program will be based upon the findings and results of Phase II. It is envisioned that during Phase III, elected officials and others with responsibility for programs and activities related to water resource management will agree upon and implement the elements and mechanisms of a comprehensive, integrated approach to regional water management.

It is recommended that the Governor convene the Phase III Committee. The Committee will consist of local governments and other interested parties and, to the extent possible, tribal participation on a government-to-government basis. The Committee will coordinate Phase III activities. The Committee's work will be conducted in the region, and will use open and inclusive processes. It is recommended that the Governor consult with local governments in the three-county area and with other interested parties to determine the size and specific composition of the Phase III Committee. The Committee will include the CPS Team.

Some of the elements of the regional Program can be identified and initiated before the data collection and assessment of Phase II is complete. For that reason, the Phase III Committee will be convened before Phase II has ended. Phase III will be fully defined and operational by June 2006.

The Phase III Committee will be responsible for preparing the Phase III work plan and schedule for development of the Program. The work plan should include:

- how the Program will implemented;
- necessary work steps;
- assignments of responsibility for the work steps;
- a schedule for completion of the work.

The Phase III Committee will identify the budget necessary to complete each work step, and will coordinate with other interested parties to assure that the necessary funding is available to support Program development and implementation.

It is not possible to fully describe the approach that will be used by the Phase III Committee without the benefit of the Phase II findings. However, it is possible to make some assumptions regarding certain elements of that work. Phase III will build upon the information and recommendations from Phase II and will integrate them into the Program. The Phase III Committee will identify the policy decisions, processes, management structures, and priorities necessary to allow more effective and efficient management of the region's water resources. The Committee will coordinate with ongoing activities under existing authorities and processes, such as the Growth Management Act (GMA), Endangered Species Act (ESA), Clean Water Act (CWA), salmon recovery, and watershed planning.

#### Phase III work will include:

- Decisions regarding the continuing applicability of the Vision and Goals prepared in Phase I;
- Development of policy and decision-making processes related to water resource management;
- Addressing regional water quality and quantity issues;
- Development of adaptive management principles and structures;
- Addressing appropriate accountability, decision-making requirements, and environmental compliance authorities.

The Phase III Program will address numerous complex water resource issues including potential implications of climate change and the interaction of surface and groundwater. The Program should develop an array of policies to guide water allocation decisions for integrating instream and out-of-stream components. Where necessary, potential rulemaking or legislation necessary to implement the Program will be identified.

Other issues addressed in the Program should include: identification and prioritization of areas requiring improved water resource management, identification of areas of limited water resources or potential water resource conflicts, and recommendations to resolve those issues. The Program should assure appropriate roles for tribes and for local governments; provide opportunities for participation by stakeholders, watershed planning groups and interested parties; and identify methods for facilitating coordination and cooperation between governments and among key regional stakeholders.

The Phase III Committee will also develop an implementation plan for the Program. That plan will describe specific steps, processes and structures that are required to implement the Program. The plan will include alternative paths for decision-making and identify issues that require additional fact-finding. A process for resolving those issues will be developed. Implementation will require many years and no specific schedule for completion will be required. New approaches for regional water resource decision-making will be developed. The implementation plan will include a conflict resolution process. Consideration will be given to developing criteria to guide decision-making and conflict resolution.

State and local government entities responsible for, engaged in, or affected by water resource management will be responsible for implementation of the Program. The Program will provide guidance to State and local governments regarding implementation of their respective decision-making responsibilities related to water resource management. Implementation could incorporate other mechanisms (e.g., rulemaking, policy development, local ordinances and new processes) that will make the Program successful. The Program will include provisions for monitoring, revision and updating to assure that the appropriate governments can implement the Program.

#### APPENDIX A

#### **State CPS Team**

A central feature of the Central Puget Sound Water Program (Program) is the creation of the State Central Puget Sound Water Team (CPS Team). This Team consists of designated representatives from each of the four State agencies with major responsibilities in water resource management. In addition, the CPS Team will have an identified Manager, one research staff, and one administrative staff. The agencies involved are the Department of Ecology, the Department of Health, the Department of Fish and Wildlife, and the Department of Community Trade and Economic Development. It is recommended that the Governor appoint the Manager and the designated representative from each of the four agencies.

The CPS Team will be located within the Central Puget Sound region. The Manager will report to the Governor (or his designee) and will be the supervisor of the other Team members. The Manager will be responsible for developing a work plan for the Team. The designated representatives from each agency will continue to be employees of their respective agencies and will continue to have a reporting and coordination function within their agency. The authority of each agency is not affected by the creation of the Team, and the agencies will provide additional support for the Team as deemed necessary by the Manager.

The Team will provide a variety of services and functions that may include:

- Coordination with State agencies regarding State agency responsibilities for operation, implementation, or update of the Program;
- Policy and permitting recommendations related to water resource management in the region;
- Information sharing with State agency staff to assess environmental impacts and benefits of water management projects;
- Coordination with project applicants to bring projects into alignment with the Program's Vision and Goals, and/or facilitation of other approaches to accomplish water resource management objectives;
- Identification of challenges to implementation of the Program's Vision and Goals, and recommendations for changes to established State policies or procedures to facilitate implementation of the Program's Vision and Goals;
- Participation and coordination to support the Phase II and Phase III Committees in the development of Phases II and III of the Program;
- Other responsibilities as assigned by the Governor or his designee.

#### APPENDIX B

#### EARLY ACTION AND PILOT PROJECT RECOMMENDATIONS

#### **Early Action Program**

Recognizing that the Regional Water Resource Management Program will take time to implement, the CPSI includes an Early Action Program to support immediate implementation of actions that support the vision and goals of the Program. Proposals were received in October 2002, and were evaluated by the State agency CPS Team. Proposals meeting the criteria are recommended for expedited review and approval, and are also recommended to receive priority for public funding.

The following criteria were used to select the first round of early action projects for inclusion in the Central Puget Sound Initiative recommendations. Proposals were expected to include sufficient information to evaluate the project on each of the criteria.

- 1. The early action project must advance the CPSI goal of a regional water management strategy that supports vibrant communities and a healthy environment. A preference will be provided to projects that provide benefits for both people and fish.
- 2. The water needs addressed by the early action project must be compelling, and the benefits of the project must be clear.
- 3. The early action project is supported by adequate information, and project decisions are mostly complete.
- 4. Impacts of the early action project must be known and adequately addressed.
- 5. There is broad public and political support for the early action project.
- 6. The early action project has a good potential for demonstration and learning that will affect future projects in the region. Monitoring of project results must be included in the proposal.
- 7. The project must be consistent with land use, water supply, watershed and salmon recovery plans, as applicable. Capital facilities projects must be identified in the applicable capital facilities plan. A preference will be provided to projects that are supported by a watershed or regional planning process.
- 8. There is a ready and capable local sponsor for project implementation. A preference will be provided to projects that have secured a portion of the funding needed for implementation. (Projects without a ready local sponsor will be considered for early action if they rank highly on other criteria.)

9. The project can be implemented or constructed within 2 years of authorization and funding (by the summer of 2005).

#### **Proposals and Recommendations**

Thirteen proposals were received and evaluated by the CPS Team. Three proposals are recommended for priority action for permitting and funding. These three proposals are: North Bend / Sallal Water Supply Project, Sammamish Valley Reclaimed Water Production Facility, and River Augmentation — Snoqualmie Aquifer Pilot. In addition several proposals received from Water Resource Inventory Areas (WRIA) 8 and 9 include action and research projects that meet the vision and goals of the Program, but require further development as specific projects. Block grants are recommended for these proposals to assist in moving the projects forward.

## A. Specific Projects

Specific projects were evaluated and recommended for priority action.

## 1. North Bend / Sallal Water Supply Project

Project sponsors: City of North Bend, Ron Garrow, Public Works Director; Sallal Water Association, Jan Botten, Operations Manager.

Project location: North Bend Area / Upper Snoqualmie Valley, King County, WRIA 7.

The City of North Bend is now in its fourth year of a self-imposed building moratorium due to an insufficient supply of water to meet the needs of the community. North Bend is facing serious economic consequences if the moratorium continues beyond 2003. If no additional water source is found, the City will be unable to comply with State-mandated population targets under the Growth Management Act. The adjacent Sallal Water Association will reach the limit of its water rights in just a few years.

Additional sources of water must be found to serve the growing Upper Snoqualmie Valley community within the North Bend Urban Growth Area (UGA). If a new source cannot be found, growth will be pushed outside of the UGA into rural areas where new exempt wells will be constructed. This project is designed to meet current and future municipal needs for planned growth inside the UGA, and to ease the economic impacts of a sustained building moratorium. It is recognized that conservation and mitigation are essential components of a new water supply. This project proposes to develop a new regional water supply at the confluence of the North and Middle Forks of the Snoqualmie River and to mitigate for this withdrawal with the augmentation of flows.

The City of North Bend and the Sallal Water Association presented two options for mitigating the development of a new regional water supply in the Upper Snoqualmie Valley. A water supply would be developed at the confluence of the North and Middle Forks of the Snoqualmie River. The mitigation would be designed to offset the reduction in Snoqualmie River flow caused by development of the new supply.

Two options for the project were presented, and option A is recommended with conditions. In the recommended option, North Bend would purchase untreated water from Seattle Public Utilities that would be delivered via a gravity siphon between the Tolt Pipeline and Deep Creek (a tributary of the North Fork Snoqualmie River). The water would flow along the North Fork Snoqualmie to Snoqualmie Falls. This would enhance the North Fork Snoqualmie River upstream of its confluence with the Middle Fork of the Snoqualmie River, and mitigate impacts below the confluence.

This project will meet the criteria of benefiting both people and fish.

Benefits for fish: Flow will be enhanced in the Snoqualmie River system during the dry season, between July 1 and October 31. Due to the fact that the new supply is a consumptive use of a groundwater source, the mitigation goal is "drop for drop" replacement.

Benefits for people: The new regional water supply will fulfill growth projections for the Urban Growth Area. Municipal water supply will reduce impacts from exempt wells in the rural areas by allowing growth within the UGA.

This project will require a new water right from the State, assistance with State permitting, and funding. The project is estimated to cost \$2,300,000, with an estimated schedule of 18 to 24 months for engineering and construction.

The CPS Team recommends support for this project, with the condition that a process be initiated to facilitate involvement between project proponents, relevant State agencies, tribal governments, stakeholders, and interest groups. This project is an opportunity to involve local and regional parties in the resolution of a local water shortage. The development of regional water supplies while improving flows for fish in the manner proposed by this project could become a model for the region.

## 2. Sammamish Valley Reclaimed Water Facility

Project sponsor: King County, Rick Kirkby, Department of Natural Resources and Parks.

Project location: Sammamish River near Redmond, King County, WRIA 8.

King County proposes construction of a stand-alone reclaimed water facility that would produce Class A reclaimed water for irrigation in the Sammamish Valley. Currently, the Sammamish Valley, between Redmond and Woodinville is a focal point of farmland preservation and recreational open space. All of the water being used for irrigation comes from the Sammamish River or from the hydraulically connected shallow alluvial aquifers adjacent to the river. The use of water for irrigation occurs during the hot summer months and generally peaks near the time of salmon migration. The river flow is naturally lower and the water temperature is naturally warmer during the summer months. The resulting surface water and groundwater pumping exacerbate the low flow and high temperature conditions.

This project will produce approximately 1.5 million gallons per day of reclaimed water during the summer season. This reclaimed water will be provided to nearby farms and recreational facilities so that they will cease pumping water from the river or aquifer. The

reclaimed water will not be discharged into the river but used to replace pumping, leaving more water in the river.

This project will meet the criteria of benefiting both people and fish.

Benefits for fish: The reclaimed water will replace surface and groundwater pumping during the summer season, improving flow and water quality in the Sammamish River.

Benefits for people: The project demonstrates new technologies for treating waste water and producing reclaimed water. Water for irrigation will support preservation of recreational open space and sustainable agricultural production. Over time, available water will support continued farming opportunities, improvement in construction and development practices, and may be used for direct groundwater recharge.

This project will be funded with King County capital funds. King County is requesting additional funding from the State to be used for grants to irrigators for conversion to reclaimed water (pumps, pipes, meters, etc.), and for drip irrigation systems. The estimated cost for grants for three farm areas is \$150,000 to \$200,000. Permitting assistance is also requested. This project is intended to be under construction by the fall of 2003, with construction complete by the summer of 2004.

The CPS Team recommends this project as a model for development of alternative water sources in the region to meet needs for people and benefit instream flows.

### 3. River Augmentation – Snoqualmie Aquifer Pilot Project

Project Sponsor: East King County Regional Water Association, Bob Pancoast, Executive Director.

Project Location: Upper Snoqualmie Valley, King County, WRIA 7.

East King County Regional Water Association (EKCRWA) is proposing a large-scale pilot project to evaluate potential river and fisheries enhancement through groundwater augmentation. This project has been studied for 10 years as a joint-venture, dual-purpose project between EKCRWA and Seattle Public Utilities, and has been re-designed to provide the maximum benefit for fish. Much of the preliminary work and baseline monitoring has been completed.

This project will evaluate the use of natural groundwater to augment stream flows in the Snoqualmie River during the dry season low flow period. Groundwater would be pumped from the Upper Snoqualmie Aquifer from August to October, and discharged directly into the Snoqualmie River to enhance downstream habitat. Data will be collected and evaluated to determine the effects of groundwater pumping on both the aquifer and Snoqualmie River flow. A report will be prepared documenting the results of the pilot project, including an evaluation of the feasibility and benefit of applying river augmentation to other watersheds in the Central Puget Sound region.

This project will meet the criteria of benefiting both people and fish.

Benefits for fish: The reach of the Snoqualmie River to be studied supports a productive population of spring Chinook salmon. Protection of this habitat will maintain migration corridors and provide rearing habitat for salmon.

Benefits for people: The project will evaluate the potential to provide out-of-stream water supply while reducing impacts of water withdrawals during summer demand periods.

The total costs for the project are estimated at \$450,000. The first step in the project would be the design and permitting of the pilot test. Actual construction for the project would begin with the completion of wells and installation of temporary pumping and distribution systems in the spring and early summer of 2003. The wells would be pumped and water discharged to the river during the summer and early fall of 2003. The wells would be shut down in the fall of 2003. Monitoring of the river and groundwater systems would be conducted prior to pumping, during pumping and discharge, and for an extended period of time after pumping (early 2003 to mid 2004). A report on the project would be prepared and made available by the summer of 2004. EKCRWA is requesting funding and permitting assistance from the state.

The CPS Team recommends this project with the condition that the project proponents work with all stakeholders, including tribal governments, environmental groups and other watershed parties to develop a work plan and scope of study. This research could provide valuable information on the concept of direct river augmentation from large regional groundwater sources.

#### **B.** WRIA Block Grants

In addition to individual projects, it is recommended that funding for block grants be sought to advance the development of specific projects in WRIAs 8 and 9 which are consistent with the vision and goals of the Program. The lead entities in these watersheds have identified a number of hydrology and flow projects that involve research to improve salmon habitat. Many of the submitted projects involve research that could benefit water resource management in the Central Puget Sound region.

#### 1. WRIA 8

Project Sponsor: WRIA 8 Forum (Lake Washington/Cedar/Sammamish Watershed), Jane Lamensdorf-Bucher, WRIA 8 Coordinator

The WRIA 8 Steering Committee and Forum submitted a list of potential projects that address water supply from the *Lake Washington/Cedar/Sammamish Watershed Near-Term Action Agenda for Salmon Habitat Conservation*, issued in 2002, for consideration by the Early Action Program. The projects include general WRIA-wide actions related to hydrology:

- Investigate impacts of surface and groundwater withdrawals on tributary stream subbasins and mainstem hydrology and evaluate the effects on salmon;
- Manage mainstem river flows to more closely emulate the natural flow regime that promotes habitat forming processes and long-term salmon survival;

- Conduct a watershed-wide investigation of surface and ground water withdrawal;
- Perform a regionally consistent baseline assessment of existing conditions and current land use impacts to the natural stream hydrology.

Other projects are specific to subareas within WRIA 8.

#### Sammamish River Subarea:

- Reclaimed Water Pilot Project Reduction of Water Withdrawals: Work with Central Puget Sound Water Suppliers Forum and King County Reclaimed Water program to allocate regional water supplies to replace surface and shallow ground water withdrawals;
- Evaluate Cold Creek ground water system and identify strategy to protect its cold water resources;
- Study how ground water flows affect the temperature and hydrology of the river.

#### Cedar River Subarea:

- Work with City of Kent to investigate ways to increase Lower Rock Creek instream flows;
- Investigate influence of altered flow regime for impacts to salmon habitat and survival, working with WRIA 8 Technical Committee and Cedar River Instream Flow Commission.

#### Bear Creek Subarea:

- Identify opportunities to protect and maintain flows and hydrologic regime in Bear Creek and its tributaries;
- Determine the source of and properly protect the aquifer for the Cold Creek groundwater springs in the Cottage Lake subbasin;
- Research flows and hydrologic regime in Bear Creek basin and identify ways to protect and maintain them.

#### Issaguah Creek Subarea:

- Research flows and hydrologic regime in Issaquah Creek basin, and identify ways to protect and maintain existing flow regime and restore a more natural flow regime;
- Analyze hydrology and flows in North Fork Issaquah Creek, East Fork Issaquah Creek, and the lower mainstem of Issaquah Creek, and evaluate whether corrective water management actions are needed.

#### 2. WRIA 9

Project Sponsor: WRIA 9 Forum (Green/Duwamish Watershed), Doug Osterman, WRIA 9 Coordinator

The WRIA 9 Forum submitted four potential projects, entitled "Protecting Water for Fish at the Urban Growth Boundary," from the *Near-Term Action Agenda for Salmon Habitat, Green/Duwamish and Central Puget Sound Watershed* issued in 2002. The projects consist of important water quantity assessment work needed to support the WRIA 9 salmon habitat planning effort and Strategic Assessment in the Middle Green and upper Lower Green River subwatersheds. Results of this work will be used to improve management of development activities and land use change, and flow management so as to support viable salmonid populations, including spawning and rearing, in these subwaterseds.

The projects would focus on identifying and quantifying the current surface and groundwater inputs and withdrawals, including issues related to the hydrologic continuity between WRIA 9 and 10 near the historic confluence of the Green and White rivers. They would examine the potential for development pressures that might disrupt these important water sources and suggest approaches to sustainable development and flow management that would protect water quantity and quality for salmon while addressing the water needs of people.

The specific projects from the Near Term Action Agenda that were submitted:

- Middle Green Action 4: Prevent degradation of important sources of cool, clean water in the Middle Green River subwatershed through techniques such as low impact development, acquisition and transfer of development rights, and land acquisition in fee;
- Middle Green Study 1: Assess flow management alternatives;
- Middle Green Study 3: Identify and characterize important surface and ground water inputs to the Middle Green River;
- Watershed-Wide Study 6: research and evaluate the water budget for people and fish in WRIA 9.